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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/023,561

12/18/2001

Seppo Rousu

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11/16/2005

HARRINGTON & SMITH, LLP

4 RESEARCH DRIVE

SHELTON, CT 06484-6212

EXAMINER

NGUYEN, DAVID Q

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/023,561

Applicant(s)

ROUSU, SEPPO

Examiner

David Q. Nguyen

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Wilcox et al. (US 6,920,315 B1).

Regarding claims 1 and 12, The admitted prior art shows and discloses a method for operating a multi-mode mobile station, wherein at least two modes operate within at least one common range of frequencies (see fig. 2 and page1 line 28 to page 2, line 1), comprising: transmitting a signal from a first antenna circuit of the mobile station in the common range of frequencies (see fig. 2 and page1 line 28 to page 2, line 1). The admitted prior art does not disclose the mobile station comprising at least two antennas; a controller, responsive to a first one of said transmitter circuits transmitting, for electronically detuning the resonance of a second antenna of the mobile station such that the resonance of the second antenna is mis-matched to the first antenna so as to reduce coupling of the transmitted signal from the first antenna into the second antenna. However, Wilcox et al. discloses the mobile station comprising at least two

Art Unit: 2681

antennas (see abstract and fig. 2); a controller, responsive to a first one of said transmitter circuits transmitting, for electronically detuning the resonance of a second antenna of the mobile station such that the resonance of the second antenna is mis-matched to the first antenna so as to reduce coupling of the transmitted signal from the first antenna into the second antenna (see abstract and col. 5, lines 14-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above teaching of Wilcox et al. to the admitted prior art so that dual mode cellular phones operate in two or more overlapping frequency bands.

Regarding claims 2-3 and 13-14, the admitted prior art also shows wherein the common range of frequencies comprises 1900 MHz; the common range of frequencies comprises 850 MHz (see fig. 2 and page 1 line 28 to page 2, line 1).

3. Claims 4-11 and 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Wilcox et al. (US 6,920,315 B1) and further in view of Trikha et al. (US 6,072,993).

Regarding claims 4-9 and 15-20, the method of the admitted prior art in view of Wilcox et al. does not mention wherein the step of detuning comprises varying an impedance of at least one component that forms a part of the second antenna circuit; wherein the at least one component is comprised of a strip line; wherein the at least one component is comprised of a PIN diode; wherein the at least one component is comprised of a variable capacitance; wherein the at least one component is comprised of a FET diode; wherein the at least one component is comprised of an active component that is put into a passive state. However, Trikha et al discloses wherein the step of detuning comprises varying an impedance of at least one component that

Art Unit: 2681

forms a part of the second antenna circuit; wherein the at least one component is comprised of a strip line; wherein the at least one component is comprised of a PIN diode; wherein the at least one component is comprised of a variable capacitance; wherein the at least one component is comprised of a FET diode; wherein the at least one component is comprised of an active component that is put into a passive state (see col. 2, lines 20-42 and fig. 1-4 and its description). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above teaching of Trikha et al. to the admitted prior art in view of Wilcox et al. so that dual mode cellular phones can be designed using electronic parts or chips as designed by designer.

Regarding claims 10-11 and 21-22, the method of the admitted prior art in view of Wilcox et al. does not mention wherein the step of detuning comprises operating at least one switch for adding a length of strip line to, or for subtracting a length of strip line from, the second antenna circuit; wherein the step of detuning comprises operating at least one switch for connecting a length of strip line to ground, or for disconnecting a length of strip line from ground. Trikha et al. discloses wherein the step of detuning comprises operating at least one switch for adding a length of strip line to, or for subtracting a length of strip line from, the second antenna circuit (see col. 2, lines 20-42 and fig. 1-4 and description); wherein the step of detuning comprises operating at least one switch for connecting a length of strip line to ground, or for disconnecting a length of strip line from ground (see col. 2, lines 20-42 and fig. 1-4 and description of Trikha et al). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above teaching of Trikha et al. to the

Art Unit: 2681

admitted prior art in view of Wilcox et al. so that dual mode cellular phones can be designed using electronic parts or chips as designed by designer.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Egashira et al. (US 5,691,730) teaches retractable broad-band antenna for portable telephones.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Q. Nguyen whose telephone number is 571-272-7844.

The examiner can normally be reached on 8:30AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOSEPH H. FEILD can be reached on (571)272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN

David Nguyen


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER